

CLAIMS

1. A method for diagnosing a person's susceptibility for having a risk for the development of alcoholism, said method comprising determining whether
5 said subject has a polymorphism in the signal peptide part of the human preproNPY, said polymorphism comprising the substitution of the position 7 leucine for proline in the signal peptide part of said preproNPY, said polymorphism being indicative of a risk for the development of alcoholism.
- 10 2. The method according to claim 1 wherein said polymorphism in the signal peptide part of the human preproNPY at said subject is determined by subjecting a position 7 allele specific oligonucleotide probe to a sample from said subject, said sample comprising a target polynucleotide of said preproNPY.
- 15 3. The method according to claim 1 wherein said polymorphism in the signal peptide part of the human preproNPY at said subject is determined by immunoassay where a sample from said subject is contacted with an antibody capable of binding the signal peptide or said NPY peptide associated with any
20 other cleavage product of preproNPY.
4. A method for treating a person, diagnosed for having a risk for the development of alcoholism according to claim 1, 2 or 3, for the prevention of developing alcoholism or for alleviating or curing alcoholism, comprising
25 administering to said person an effective amount of an agent counteracting the influence of the mutated NPY gene.
5. The method according to claim 4 wherein said agent is a pharmaceutical aimed to modulate synthesis, secretion or metabolism of the endogenous

NPY, or to interact in a specific manner at NPY target sites by modulating effects of NPY with specific NPY receptor proteins.

6. The method according to claim 4 wherein said agent is a pharmaceutical
5 aimed to modulate gene expression of normal or mutated NPY gene.

7. A method for treating a person, diagnosed for having a risk for the development of alcoholism according to claim 1, 2 or 3, for the prevention of developing alcoholism or for alleviating or curing alcoholism, comprising
10 subjecting the person to specific gene therapy aimed to repair the mutated NPY sequence.

8. A method to investigate or screen pharmaceuticals or genetic aims useful in the prevention or treatment of alcoholism, by using an animal model
15 including a transgenic animal which carries a human DNA sequence comprising a nucleotide sequence encoding a prepro-neuropeptide Y (preproNPY) or part thereof encoding mature human NPY peptide, where the leucine amino acid in position 7 of the signal peptide part of said preproNPY i) is unchanged or ii) has been replaced by proline.

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9. A method to investigate or screen pharmaceuticals or genetic aims useful in the prevention or treatment of alcoholism, by using an animal model including a transgenic animal, which carries a DNA sequence comprising a nucleotide sequence encoding otherwise normal mouse NPY sequence or part
25 thereof encoding mature mouse NPY peptide, but in which the nucleotide sequence encoding the mouse signal peptide is replaced by human signal peptide sequence encoding either normal or mutated human signal peptide.